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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,509	04/16/2004	Steven Bailey	MS304069.01 / MSFTP620US	1955
27195	7590	01/28/2008	EXAMINER	
AMIN, TUROCY & CALVIN, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			EHICHIOYA, FRED I	
			ART UNIT	PAPER NUMBER
			2162	
			NOTIFICATION DATE	DELIVERY MODE
			01/28/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/826,509

Applicant(s)

BAILEY ET AL.

Examiner

Fred I. Ehichioya

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1 - 36 are pending in this Office Action.

#### ***Response to Arguments***

2. Applicant's argue:

***(I) Rejection of claims 1 – 21, 24 – 28, and 31 – 36 Under 35 USC § 101***

*Applicant's representative respectfully disagrees with the Examiner's contentions and submits that the Examiner is misconstruing the requirements necessary to fulfill the conditions for patentability under 35 U.S.C. § 101 (page 8, paragraph 1).*

Examiner respectfully disagrees with the applicant. Applicant's argument regarding rejection of claims 1 – 21, 24 - 28, and 31 – 36 under 35 USC 101 is not persuasive. Please paragraph 3 below of the detail rejection of these under 35 USC 101.

***(II) Rejection of claims 1, 24, 31, 33, 34 and 36 Under 35 USC § 102(b)***

***(a) Julien's extracting unstructured web page information cannot be said to expressly or inherently describe the data page being copied by an active transaction that requires a modification therefore (page 13, paragraph 1).***

Examiner respectively disagrees with the applicant. Applicant's argued limitation is "the data page is copied by transaction(s) that requires modification thereof". Julien discloses the data page is copied by transaction(s) that requires modification thereof (see page 7, [0076] "extraction and aggregation operations take place, in order to

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acquire the updated contact information from the home page” and further, page 7, [0078] states “the system user will receive updated contact information, retrieved directly from the Web page(s) connected to the URL address(es) provided by the prospector unit 38, and the contact information stored in the database 40 for the Web page(s) connected to the URL address(es) will be updated”); thus Julien inherently describes the data page is copied by transaction(s) that requires modification thereof.

*(b) The aggregating web page data process cannot be said to explicitly or implicitly describe a page component that operates across concurrent transaction (page 13, paragraph 2).*

Examiner respectfully disagrees with the applicant. Julien discloses on page 3, [0021]: “The data processing device includes an identification unit operative to connect to a plurality of sources of unstructured digitized data from which the specific information is to be collected”); this implicitly suggests operating across concurrent transaction on plurality of source.

***(III) Rejection of claims 2, 8, 9, 10, 13 – 16, 21 – 23, 25, 29, 30, 32 and 35***

***Under 35 USC § 103(a)***

*(a) Avner does not teach or suggest a heap manager that tracks a space availability for the data page via information supplied by page aggregator as recited in claim (page 14, paragraph 3).*

Examiner respectfully disagrees with the applicant. Avner on Fig. 2 steps 203, 205 and at column 11, lines 2 – 8 discloses “then the heap optimization module 205

checks the next heap to determine if there is enough contiguous space in which to make the allocation. Specifically, the heap optimization module 205 instructs the heap manager 203 to make the allocation in the next heap (returning to act 304). If the next heap is locked, the heap manager 203 waits until the next heap is unlocked before checking for contiguous space". This fairly suggests a heap manager that tracks a space availability for the data page via information supplied by page aggregator.

*(b) Avner cannot be said to teach or suggest a heap manager that tracks a space availability for the data page via information supplied by the page aggregator (page 15, paragraph 2).*

*(c) Avner cannot be said to teach or suggest tracking or determining space availability for data page (page 15, paragraph 2).*

In response to arguments (b) and (c), Examiner respectively disagrees with the applicant. Please see response to argument (a) above that is applicable herewith.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 – 21, 24 – 28, and 31 - 36 are rejected under 35 U.S.C. 101 because:

(i) Regarding claims 1 and 10, these claims are directed to database engine in a computing system. Applicant discloses "the present invention has been described with reference to acts and symbolic representations of operations that are performed by a computer, such as the computer 1220, unless otherwise indicated. Such

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acts and operations are sometimes referred to as being computer-executed. It will be appreciated that the acts and symbolically represented operations include the manipulation by the processing unit 1221 of electrical signals representing data bits which causes a resulting transformation or reduction of the electrical signal representation" –see specification page 19, lines 7 -13. This claim invention is directed to signal processing. This disclosure covers signal and carrier waves, which are not a manufacture within the meaning of 101; therefore non-statutory.

Regarding claims 2 – 9, 11 – 12, they recite computing steps, they are merely descriptive and lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101 as forth in MPEP 2106 (II) (A); therefore non-statutory.

(ii) Regarding claims 13 and 21, these claims are directed to a method that facilitates synchronization in concurrent transactions; they are directed to process and abstract idea within the meaning of 101; however, obtaining information on an aggregate size change and tracking space availability for the data page does not produce physical transformation; therefore, are non-statutory.

(iii) Regarding claim 24, this claim is directed to computer-readable medium. Based on the intrinsic evidence, the specification does not appear to define "medium". In this context, a "computer-readable medium" can be any means that can contain, store, communicate, propagate, or transport the program for use by or in connection with the instruction execution system, apparatus, or device. The computer readable medium can be, for example but not limited to, an electronic, magnetic, optical,

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electromagnetic, infrared or semiconductor system, apparatus, device, or propagation medium; therefore non-statutory.

(iv) Regarding claims 31 and 36, these claims are directed to a method for manipulating data in a data page; they are directed to process and abstract idea within the meaning of 101; however, copying a data page to a reserved space for the transaction and determining an aggregate size change for the data page do not produce physical transformation; therefore, are non-statutory.

The claimed invention does not accomplish a "useful result" as forth in MPEP 2106 (II) (A).

Regarding claims 14 – 20, 25 – 28, and 32 - 35, they recite computing steps, are merely descriptive and lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101; therefore non-statutory.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 24, 31, 33, 34 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pub. No. 2002/0129011 issued to Benoit Julien (hereinafter "Julien").

Regarding claim 1, Julien discloses a database engine comprising:

a page aggregator component that operates across concurrent transactions (page 3, [0021]: "The data processing device includes an identification unit operative to connect to a plurality of sources of unstructured digitized data from which the specific information is to be collected" ..... "an aggregator unit operative to process the extracted information elements") to obtain information on an aggregate size change that occurs on a data page (page 5, [0046]: "50 words before and 100 words after" indicate the aggregate size change); the data page is copied by transaction(s) that requires modification thereof (page 7, [0076]: "extraction and aggregation operations take place, in order to acquire the updated contact information from the home page" and also page 7, [0078] states "the system user will receive updated contact information, retrieved directly from the Web page(s) connected to the URL address(es) provided by the prospector unit 38, and the contact information stored in the database 40 for the Web page(s) connected to the URL address(es) will be updated").

Regarding claim 24, Julien discloses a computer-readable medium having stored thereon a data structure comprising:

a computer executable component that operates across a plurality of active transactions to obtain information on a space change for a data page (page 5, [0046] wherein "50 words before and 100 words after" indicate the aggregate size change), the data page being copied by an active transaction that requires a modification thereof (page 7, [0076] "extraction and aggregation operations take place, in order to acquire the updated contact information from the home page").



Regarding claims 31 and 36, Julien discloses a method for manipulating data in a data page by a transaction comprising:

copying a data page to a reserved space for the transaction (page 7, [0076] “extraction and aggregation operations take place, in order to acquire the updated contact information from the home page”); and

determining an aggregate size change for the data page (page 5, [0046] wherein “50 words before and 100 words” after indicate the aggregate size change).

Regarding claim 33, Julien discloses creating a new page and inserting a row therein (page 4, [0037] wherein “The tag is inserted at a predetermined position with respect to the identified information element”. The tag represents the record of the information element).

Regarding claim 34, Julien discloses employing a pointer in the data page to guide a query to the row in the new page (page 3, [0020] wherein the search engine searches the WWW for pages containing or making reference to the name of the company; “reference” is the pointer that guides the query the record in the page).

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 8, 9, 10, 13 – 16, 21 – 23, 25, 29, 30, 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Julien in view of US Patent No. 6,643,753 issued to Avner et al., (hereinafter "Avner").

Regarding claim 2, Julien disclose the claimed subject matter as discussed in claim 1, Julien does not explicitly disclose heap allocation as claimed.

Avner discloses a heap allocation component that employs the information to determine an availability of space for the data page (column 11, lines 1 – 6).

It would have been obvious to one of ordinary skills at the time of present invention to combine cited references because Avner's teaching of "heap allocation" would have allowed Julien's system to permits allocations within heaps even if one or more heaps are currently locked. This increases the efficiency of virtual memory usage and reduces the risk of virtual memory fragmentation as suggested by Avner (Summary).

Regarding claim 8, Avner discloses the heap allocation component tracks an availability of space on the data page (column 10, lines 50 – 65).

Regarding claim 9, Avner discloses the heap allocation component and the page aggregator component enforce a set of conditions on a transaction that operates on the data page, such that a space availability for the data page prior to the commit stage of the transaction is assured (column 10, lines 44 – 49).

Regarding claim 10, Julien discloses a database engine comprising:

a page aggregator that works across concurrent transactions (page 3, [0021] wherein an aggregator unit operative to process the extracted information elements) that perform sub-page level operations on a data page (page 7, [0076] “extraction and aggregation operations take place, in order to acquire the updated contact information from the home page”).

Julien does not explicitly disclose a heap manager.

Avner discloses a heap manager that tracks space availability for the data page via information supplied by the page aggregator (Fig. 2 steps 203, 205 and at column 11, lines 2 – 8 discloses “then the heap optimization module 205 checks the next heap to determine if there is enough contiguous space in which to make the allocation Specifically, the heap optimization module 205 instructs the heap manager 203 to make the allocation in the next heap (returning to act 304). If the next heap is locked, the heap manager 203 waits until the next heap is unlocked before checking for contiguous space”).

It would have been obvious to one of ordinary skills at the time of present invention to combine cited references because Avner's teaching of “heap manager”

would have allowed Julien's system to permits allocations within heaps even if one or more heaps are currently locked. This increases the efficiency of virtual memory usage and reduces the risk of virtual memory fragmentation as suggested by Avner.

(Summary).

Regarding claims 13 and 21, Julien discloses a method that facilitates synchronization in concurrent transactions comprising:

obtaining information on an aggregate size change that occur on a data page as a result of concurrent transactions operating on respective copies of the data page (page 5, [0046] wherein "50 words before and 100 words after" indicate the aggregate size change).

Julien does not explicitly track space availability.

However, Avner discloses tracking a space availability for the data page over all the concurrent transactions (column 11, lines 2 - 8).

It would have been obvious to one of ordinary skills at the time of present invention to combine cited references because Avner's teaching of "heap manager" would have allowed Julien's system to permits allocations within heaps even if one or more heaps are currently locked. This increases the efficiency of virtual memory usage and reduces the risk of virtual memory fragmentation as suggested by Avner

(Summary).

Regarding claim 14, Avner discloses assigning locks to a resource on the data page (column 2, lines 54 - 55).

Regarding claim 15, Julien discloses modifying the data page (page 7, [0078] wherein the contact information stored in the database 40 for the Web pages(s) connected to the URL address(es) will be updated).

Regarding claim 16, Julien discloses replacing a row with an inserting pointer (page 2, [0014] wherein link and hyperlink are the inserting pointers).

Regarding claim 22, Julien discloses a system for facilitating synchronization in concurrent transactions comprising:

means for obtaining information on an aggregate size change that occur on a data page during modifications thereof by concurrent transactions (page 5, [0046] wherein "50 words before and 100 words after" indicate the aggregate size change).

Julien does not explicitly track space availability.

However, Avner discloses means for tracking a space availability for the data page over all the concurrent transactions (column 11, lines 2 - 8).

It would have been obvious to one of ordinary skills at the time of present invention to combine cited references because Avner's teaching of "heap manager" would have allowed Julien's system to permits allocations within heaps even if one or more heaps are currently locked. This increases the efficiency of virtual memory usage

and reduces the risk of virtual memory fragmentation as suggested by Avner

(Summary)

Regarding claim 23, Avner discloses means for assuring availability of space on a data page prior to a commit stage of a transaction operating on the data page (column 10, lines 44 – 49).

Regarding claim 25, Avner discloses computer executable component that tracks an availability of space for the data page based on the information (column 11, lines 2 - 8).

Regarding claim 29, Julien discloses a system for facilitating synchronization in concurrent transactions comprising:

means for determining logical permission to insert a row on a data page during modifications thereof by concurrent transactions (page 4, [0037 wherein “The tag is inserted at a predetermined position with respect to the identified information element”. The tag represents the record of the information element).

Julien does not explicitly teach determining a space availability.

However, Avner discloses means for determining a space availability for the data page over the concurrent transactions (column 11, lines 2 - 8).

It would have been obvious to one of ordinary skills at the time of present invention to combine cited references because Avner’s teaching of “heap manager”

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would have allowed Julien's system to permits allocations within heaps even if one or more heaps are currently locked. This increases the efficiency of virtual memory usage and reduces the risk of virtual memory fragmentation as suggested by Avner  
(Summary)

Regarding claim 30, Julien discloses means for mitigating reorganization of data mound the data page at the commit stage of the concurrent transactions (page 2, [0011] wherein layer and organizing structure are the means for mitigating reorganization).

Regarding claim 32, Avner discloses tracking space availability on the data page across a plurality of concurrent transactions working on the data page (column 11, lines 2 - 8).

Regarding claim 35, Avner discloses locking a resource at a row level on the data page (column 2, lines 54 - 55).

8. Claims 3 – 7, 11, 12, 17 – 20, and 26 - 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Julien in view of Avner and further in view of U.S Patent No. 6,889,249 issued to Miloushev et al., (hereinafter "Miloushev" ).

Regarding claim 3, Julien and Avner disclose the claimed subject matter as discussed in claims 1 and 2. Julien or Avner does not explicitly disclose lock manager as claimed.

However, Miloushev discloses a lock manager that enables sub page level locking across concurrent transactions (column 37, lines 37 – 42).

I would have been obvious to one of ordinary skills at the data processing art at the time of present invention to combine the cited references because Miloushev's teaching of lock manager would have allowed Julien and Avner's to include lock manager that controls the allocation of disk space to different files and controls access to those files.

Regarding claim 4, Miloushev discloses each of the concurrent transactions modifies a respective copy of the data page (column 22, lines 18 – 25).

Regarding claim 5, Miloushev discloses the page aggregator component enables a determination of space consumptions (column 28, lines 61 – 67) across a respective copy of data page employed by each transaction (column 21, lines 59 – 65).



Regarding claim 6, Miloushev discloses the page aggregator component determines the space consumption across the respective copy from information available in the lock manager (column 29, lines 5 – 18).

Regarding claim 7, Miloushev discloses the sub page level locking is a row level locking (column 36, lines 38 – 51).

Regarding claim 11, Miloushev discloses each of the concurrent transactions modify a respective copy of the data page without consuming all space available on the data page (column 22, lines 18 – 25).

Regarding claim 12, Miloushev discloses a lock manager that facilitates compatibility of operations across the concurrent transactions (column 37, lines 37 – 42).

Regarding claim 17, Julien discloses inserting the row on a new page (page 2, [0014] wherein link and hyperlink are the inserting pointers).

Regarding claim 18, Miloushev discloses storing the information in the locks (column 36, lines 25 – 26).

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Regarding claim 19, Miloushev discloses discarding the locks upon a roll back of a transaction (column 38, lines 46 – 58).

Regarding claim 20, Miloushev discloses discarding the locks upon committing a transaction (column 37, line 65 – column 38, line 2).

Regarding claim 26, Miloushev comprising an additional computer executable component that administers logical considerations during data modification on the data page (column 34, lines 60 – 63).

Regarding claim 27, Miloushev discloses the additional computer executable component grants locks at a row level of the data page (column 36, lines 38 – 51).

Regarding claim 28, Miloushev discloses a forwarding pointer device that guides a query to a new location of data (column 21, lines 31 – 38).

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 571-272-4034. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fred I. Ehichioya/

January 21, 2008

1. In the  
Jean Marie  
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